



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,550	09/24/2003	Hideyo Osanai	W1010.153-US-01	4662

7590 08/30/2004  
JAMES H. PATTERSON  
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.  
4800 IDS CENTER  
80 SOUTH 8TH STREET  
MINNEAPOLIS, MN 55402-2100

EXAMINER
----------

CHERVINSKY, BORIS LEO

ART UNIT	PAPER NUMBER
----------	--------------

2835

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/669,550

Applicant(s)

OSANAI ET AL.

Examiner

Boris L. Chervinsky

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6 and 8-20 is/are rejected.
- 7) ☐ Claim(s) 3, 5 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electronic parts must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 3 objected to because of the following informalities: grammatical error in line 2. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-20 are vague and indefinite because the electronic parts have not been shown in the drawings therefore no structural interrelation can be positively established.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 6, 8, 15, 17, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagase et al. in view of Kaufman.

Nagase discloses a combined member of aluminum-ceramics comprising a ceramic board 13, a conductive member 52 for mounting electronic parts thereon, the conductive member 52 formed on one surface of the ceramic board 13, and a heat radiating member 14 of aluminum or aluminum alloy bonded on the other surface of the

Art Unit: 2835

ceramic board; the heat radiating member 14 is larger in dimension than the ceramic board 13 and contains copper (col. 4, lines 55-67). Nagase et al. disclose the claimed invention except having the heat radiating member directly bonded to the ceramic board. Kaufman discloses the heat radiating member 10 directly bonded to the ceramic board 8. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to attach the heat radiating member as disclosed by Kaufman in the device disclosed by Nagase et al. in order to simplify the structure and to improve heat conduction.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagase et al. in view of Kaufman and further in view of Natsuhara et al.

Nagase and Kaufman disclose the claimed invention as shown above except the terminal base. Natsuhara discloses the heat radiating member 3 with terminal base. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have terminal base as disclosed by Natsuhara et al. in the device disclosed by Nagase et al. to provide means for connection to other functional elements.

8. Claims 9-14, 16, 18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagase et al. in view of Kaufman and further in view of Sanger et al. Nagase and Kaufman disclose the claimed invention as shown above except the water cooling jacket. Sanger discloses the water cooling jacket attached to the ceramic board. It would have been obvious at the time the invention was made to a person having

Art Unit: 2835

ordinary skill in the art to have water cooling jacket as disclosed by Sanger et al. in the structure disclosed by Nagase et al. for sufficient heat removal.

The functional recitation of claims 11 and 12 limiting the method of manufacture, but does provide sufficient structure, which differentiates the final product from the product described in the prior art.

***Allowable Subject Matter***

9. Claims 3, 5, 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800 ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2835

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**BORIS CHERVINSKY**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read "Boris I. Chervinsky", with a stylized flourish at the end.

2/26/4